

# Good Housekeeping and Other Runoff Controls

Good housekeeping practices are not typically entered on site maps or drawings, but are cited in the best management practices plan and standard notes. These practices are included as part of the construction operations and management process. Good housekeeping practices include plans, procedures, and activities designed to prevent or minimize the use of materials that may become potential pollutants and/or their exposure to the weather.

Good housekeeping practices seek to reduce or eliminate the addition of pollutants to construction site runoff through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

In general, good housekeeping focuses on keeping the work site clean and orderly, storing materials under roof whenever possible, and handling materials and wastes in manner that minimizes risk and potential pollutant runoff. A variety of good housekeeping practices have been developed to reduce or eliminate runoff pollutants. These practices – along with relevant application information – is summarized in the following sections.



*Good housekeeping includes management of solid and sanitary wastes, hazardous materials, and other construction site materials that could contaminate runoff. Staff should be familiar with basic procedures for storing and managing site materials, and how to respond in the event of a spill or other event that might threaten water resources.*



*Poor housekeeping practices. Sloppy material storage and waste disposal practices are often indicative of inadequate stormwater management throughout the construction site. Inspectors often target sites like these for more detailed inspections.*



# Material Delivery, Storage, and Use



A wide variety of construction site materials - such as soil amendments, fertilizers, paint, and fuels - can contaminate stormwater runoff if not stored properly. In general, storing materials under roof or covering with a secure tarp provides good protection against polluting construction site runoff. Job site supervisors should check for leaching or spreading of contaminants from fuel storage areas, landscaping stockpiles, and other places where potentially hazardous materials are stored.



## Definition

Receiving, processing, storing, and using materials in a manner that minimizes the risk of spills and pollution of stormwater runoff.

## Purpose

The purpose of material delivery, storage, and use is to prevent the material from being spilled or otherwise coming into contact with runoff.

## Implementation

- Designate specific areas of the construction site for material delivery and storage
- Place material storage areas near construction entrance and away from waterways and storm drain inlets
- Where possible, place materials designated for outside storage in locations that will be paved
- Install containment berms or rock check dams between stored materials (topsoil, fertilizer, etc.) and site drainage system
- Minimize on-site storage of materials and schedule delivery of material for when it will be needed
- Minimize hazardous materials stored on-site
- Store hazardous or toxic materials in covered area or indoors if possible
- Provide secondary storage for materials
- Keep materials in original containers and labeled
- Keep containers tightly sealed after use
- Train employees and subcontractors



Keep hazardous materials under cover and over collection pans to prevent problems.

## Inspection and Maintenance

- Inspect material storage area weekly and after each rainfall greater than 0.5 inches
- Inspect material storage areas for cleanliness, spills and leaks
- Clean up spills promptly; keep spill kits nearby

# Spill Prevention and Control



*Spill prevention and control measures require planning and monitoring to ensure that problems are minimized. Locate storage and handling areas for hazardous liquids away from waterways and culvert inlets. Clean up spills immediately, and report large spills to the Kentucky Division of Water and Division of Waste Management.*



## Definition

Procedures that establish spill response and control actions by anticipating when and how spills might occur and instituting defined actions to contain and clean it up.

## Purpose

Leaks and spills can significantly pollute runoff from a construction site. Prepare for potential spills by reducing the chance for spills to occur, stopping the source of spills, containing and cleaning up spills, properly disposing of spill material, and training employees. Planning and prevention can minimize spills at a construction site. Trained employees with the proper spill response equipment can also prevent spills from polluting runoff.

## Implementation

- Store materials away from waterways and storm drain inlets
- Store hazardous or toxic materials indoors if possible, or in other areas safe from vehicular traffic, vandals, and equipment movement
- Place a stockpile of spill cleanup materials where it can be easily accessed
- Train employees and subcontractors on the need to prevent spills
- Train employees on spill prevention and response
- Fix leaks and clean up spills immediately
- Use dry methods to clean up spills – never hose down or bury spill materials
- Dispose of absorbent material properly. For small quantities, place in double plastic bagging and discard with solid waste. For larger quantities, refer to material safety data sheets and KY Division of Waste Management (502.564.6716 or [www.waste.ky.gov](http://www.waste.ky.gov)) disposal requirements.
- For major spills or spills that enter a waterway or storm drain inlet, report the spill to the Kentucky Division of Water (502.564.2380). See list below for regional office phone numbers:

## Emergency Numbers for Spills That Enter Waterways or Storm Drains

Location	Phone Number
Statewide	(800) 928-2380
Bowling Green	(270) 746-7475
Columbia	(270) 384-4734
Florence	(859) 525-4923
Frankfort	(502) 564-3358
Hazard	(606) 435-6022
London	(606) 878-0157
Louisville	(502) 425-4671
Madisonville	(270) 824-7529
Morehead	(606) 784-6635
Paducah	(270) 898-8468



*Keep spill absorbents, containment dams, and other spill response materials close to the location of possible spills. Make sure employees know how to contain and report spills.*



# Vehicle and Equipment Maintenance



*Service vehicles and equipment in locations where spills can be contained and cleaned up easily. Use sand, absorbents, and containment berming when changing oil or servicing hydraulic cylinders and lines. Clean up spills quickly and dispose of residue properly.*



### Definition

Policies and procedures that specify how and where vehicles and equipment will be cleaned, fueled, and maintained in a manner that minimizes risks for spills and runoff of pollutants.

### Purpose

Vehicle and equipment cleaning, fueling and maintenance should ideally be conducted at an off-site facility. When cleaning, fueling or maintenance must be conducted at the construction site, work should be conducted in designated areas by properly trained employees. Practices to properly clean, fuel and maintain vehicles and equipment will help prevent and minimize spills from these activities. This practice will also minimize the exposure of oil and grease, hydrocarbons, and other pollutants in runoff from the construction site.

### Implementation

- Use off-site repair and fueling shops as much as possible
- If storing fuel on-site, specify double containment systems and site fuel tanks on upland areas well away from stormwater drainage ditches, inlets, and streams.
- Use off-site facilities to wash vehicles and equipment as much as possible
- If maintenance or fueling must occur on-site, designate an area away from waterways and storm drain inlets
- Do not store batteries, oil, or other materials where they could be exposed to runoff
- Use drip pans or absorbents under leaking vehicles or equipment
- Properly dispose of used oil, lubricants, and grease
- When washing vehicles or equipment, locating washing away from waterways or storm drain inlets, use phosphate-free, biodegradable soaps, and minimize the amount of water used
- When fueling on-site, minimize mobile fueling; instead, designate a fueling location and bring vehicles and equipment to the designated fueling location
- Protect on-site cleaning, fueling and maintenance areas with berms or dikes
- Train employees and subcontractors
- Inspect vehicles and equipment daily for leaks. Check fueling area for any leaks or spills, and ensure that spill cleanup kits are available and fully stocked

# Debris and Trash Management



Use open containers for solid wastes with no potential for leaching contaminants, such as wood waste, packaging, and other inert material. For wastes with high leaching potential (e.g., paint containers, powders, granular material), use only covered containers and keep the lid closed.



### Definition

Policies and procedures designed to minimize the generation of waste and to handle and dispose of waste in a manner that minimizes risks to surface waters.

### Purpose

Large volumes of debris and trash are often generated at construction sites including packaging, pallets, wood waste, concrete waste, soil, electrical wiring, cuttings, and a variety of other materials. There are several techniques and procedures to minimize the potential of stormwater contamination from solid waste through appropriate storage and disposal practices. Recycling of construction debris also reduces the volume of material to be disposed of and associated costs. Debris and trash management should be a part of all construction practices. By limiting the trash and debris on site, stormwater quality is improved along with reduced clean up requirements at the completion of the project.

### Implementation

Solid waste management for construction sites is based on proper storage and disposal practices by construction workers and supervisors. Key elements of the program are education and modification of improper disposal habits. Cooperation and vigilance is required on the part of supervisors and workers to ensure that the recommendations and procedures are followed. Following are lists describing the targeted materials and recommended procedures:

#### ***Construction (and Demolition) Debris***

- Dimensional lumber
- Miscellaneous wood (pallets, plywood, etc.)
- Copper (pipe and electrical wiring)
- Miscellaneous metal (studs, pipe, conduit, sheathing, nails, etc.)
- Insulation
- Concrete, brick, and mortar
- Shingles
- Roofing materials
- Gypsum board

### ***Trash***

- Paper and cardboard (packaging, containers, wrappers)
- Plastic (packaging, bottles, containers)
- Styrofoam (cups, packing, and forms)
- Food and beverage containers
- Food waste

### ***Storage Procedures***

- Stress to employees the importance of keeping the work site clean.
- Wherever possible, minimize production of debris and trash.
- Designate a foreman or supervisor to oversee and enforce proper debris and trash procedures.
- Instruct construction workers in proper debris and trash storage and handling procedures.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Segregate recyclable construction debris from other non-recyclable materials.
- Keep debris and trash under cover either in a closed dumpster or other enclosed trash container that limits contact with rain and runoff and prevents light materials from blowing out.
- Store waste materials away from drainage ditches, swales, and catch basins.
- Do not allow trash containers to overflow.
- Do not allow waste materials to accumulate on the ground.
- Prohibit littering by workers and visitors.
- Police the site daily for litter and debris.
- Enforce solid waste handling and storage procedures.

### ***Disposal Procedures***

- If feasible, recycle construction and demolition debris such as wood, metal, and concrete.
- General construction debris may be hauled to a licensed construction debris landfill (typically less expensive than a sanitary landfill).
- Use waste and recycling haulers/facilities approved by the local jurisdiction.

### ***Education***

- Educate all workers on solid waste storage and disposal procedures.
- Instruct workers in identification of solid waste and hazardous waste.
- Have regular meetings to discuss and reinforce disposal procedures (incorporate in regular safety seminars).
- Clearly mark on all debris and trash containers which materials are acceptable.

### ***Quality Control***

- Foreman and/or construction supervisor should monitor on-site solid waste storage and disposal procedures.
- Discipline workers who repeatedly violate procedures.

### *Performance Indicators*

- No contaminated runoff from waste containers entering stormwater system.
- Job-site waste handling and disposal education and awareness program.
- Compliance by workers with policies and procedures.
- Sufficient and appropriate waste storage containers.
- Timely removal of stored solid waste materials.
- Training workers and monitoring compliance.



*Poor waste management. Construction contractors should provide appropriate waste disposal containers, and employees should be instructed to use them.*



*Sites like this one are often the subject of public complaints to state and local planning and regulatory agencies. Good housekeeping practices keep complaints down, inspectors happy, and water clean.*

*Polluted runoff from construction sites can result in fines up to \$27,500 per day per violation. Stop work orders can cause construction delays of days, weeks, or even months.*



# Hazardous Waste Management



*Hazardous materials—such as paint, fuel, oil, fertilizers, etc.—should be managed to prevent spills or runoff into storm drains and waterways.*



## Definition

Policies and procedures that address the problem of stormwater polluted with hazardous/chemical pollutants through spills or other forms of contact.

## Purpose

The objective of hazardous materials management is to minimize the potential of stormwater contamination from construction chemicals through appropriate recognition, handling, storage, and disposal practices. It is not the intent of chemical management to supersede or replace normal site assessment and remediation procedures. Significant spills and/or contamination warrant immediate response by trained professionals. Suspected job-site contamination should be immediately reported to regulatory authorities and protective actions taken. These management practices, along with applicable OSHA and EPA guidelines, should be incorporated at all construction sites that use or generate hazardous wastes. Many chemicals such as fuel, oil, grease, fertilizer, and pesticide are present at most construction sites.

## Implementation

The chemical management techniques presented here are based on proper recognition, handling, and disposal practices by construction workers and supervisors. Key elements are education and proper disposal practices, as well as provisions for safe storage and disposal. Following are lists describing the targeted materials and recommended procedures:

### *Targeted Chemical Materials*

- Paints
- Solvents
- Stains
- Wood preservatives
- Cutting oils
- Greases
- Roofing tar
- Pesticides, herbicides, and fertilizer
- Fuels and lube oils
- Antifreeze

### ***Storage Procedures***

- Wherever possible, minimize use of hazardous materials.
- Minimize generation of hazardous wastes on the job-site.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Designate a foreman or supervisor to oversee hazardous materials handling procedures.
- Keep chemicals in appropriate containers (closed drums or similar) and under cover.
- Store chemicals away from drainage ditches, swales, and catch basins.
- Use containment berms in fueling and maintenance areas and where the potential for spills is high.

### ***Waste Handling***

- Minimize water usage during paint wash-up. Dispose of paint wash water with other liquid wastes, spread on graveled sites prepared for new concrete pouring, or areas being prepared for paving. Do not dispose of wash water in ditches or stormwater inlets.
- Retain and use all products such as paint, thinners, etc. until supplies are depleted. Do not dispose of liquid wastes on pavement or near ditches or stormwater inlets.
- Allow paint rollers, drop cloths, cans, and other wastes to dry thoroughly, then discard in solid waste containers.
- Recycle or dispose of all liquid wastes in accordance with material safety data sheets.
- Ensure that adequate hazardous waste storage volume is available.
- Ensure that hazardous waste collection containers are conveniently located.
- Do not allow potentially hazardous waste materials to accumulate.
- Enforce hazardous waste handling and disposal procedures.
- Clearly mark on all hazardous waste containers which materials are acceptable for the container.

### ***Disposal Procedures***

- Ensure that adequate cleanup and containment materials are available onsite.
- Regularly schedule hazardous waste removal to minimize on-site storage.
- Use only licensed hazardous waste haulers.

### ***Education***

- Instruct workers on safety procedures for construction site chemical storage.
- Instruct workers in identification of chemical pollutants.
- Ensure that workers are trained in procedures for spill prevention and response.
- Educate workers of potential dangers to humans and the environment from chemical pollutants.
- Educate all workers on chemical storage and disposal procedures.
- Have regular meetings to discuss and reinforce identification, handling, and disposal procedures (incorporate in regular safety seminars).
- Establish a continuing education program to indoctrinate new employees.

## Quality Assurance

- Foreman and/or construction supervisor must monitor on-site chemical storage and disposal procedures.
- Educate and if necessary, discipline workers who violate procedures.
- Ensure that the hazardous waste disposal contractor is reputable and licensed.

## Performance Indicators

- Job-site chemical and hazardous waste handling and disposal education and awareness program.
- Commitment by management to implement chemical storage and hazardous waste management practices.
- Compliance by workers.
- Sufficient and appropriate chemical and hazardous waste storage containers.
- Timely removal of stored hazardous waste materials.



*Store hazardous liquids like fuel, oil, and paint under roof and over spill pans. Keep spill cleanup supplies handy, and train staff in how to prevent and respond to spills.*



*Hazardous waste management involves caution, care, and common sense. This temporary fuel tank is stored on a paved area on a bed of sand within a concrete block and heavy plastic dike surrounded by a berm of sand. Fill tanks in high risk areas two-thirds full to avoid overfilling and spills.*

# Concrete Waste Management



Concrete washout structures or areas should be designated and used to prevent discharge of highly alkaline wash water to the storm sewer or surface streams. Use bermed areas created with hay bales, earthen dikes, or other material - do not dispose of concrete wastes in excavated holes in areas with high groundwater tables.



### Definition

Policies and procedures that address the handling and disposal of: 1) excess fresh concrete mix including truck and equipment washing and 2) concrete dust and concrete debris resulting from demolition.

### Purpose

Concrete waste is present at most construction sites. Both forms of concrete waste have the potential to impact water quality through stormwater runoff contact with the waste. The purpose of good housekeeping practices associated with managing these wastes is to prevent stormwater contamination and impacts to receiving waters downstream.

### Implementation

A number of water quality parameters can be affected by introduction of concrete, especially fresh concrete. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of both cement and aggregate dust are also generated from both fresh and demolished concrete waste.

#### ***Unacceptable Waste Concrete Disposal Practices***

- Dumping in unmanaged vacant areas on the job-site.
- Illicit dumping away from the job site.
- Dumping into ditches or drainage facilities.
- Dumping wash water from trucks and chutes into storm drains

#### ***Recommended Disposal Practices***

- If possible, dump waste and wash water into areas prepared for new concrete pouring.
- Spread waste and wash water to prevent runoff from the area.
- If no future pour site is available, develop other safe concrete disposal areas.
- Provide a washout area with a minimum of 6 cubic feet of containment area volume for every 10 cubic yards of concrete poured.
- Never dump waste concrete illicitly or without property owner's knowledge and consent.



- Washdown water must be discharged in an area protected by one or more sediment removal BMPs and must be done in a manner that does not result in a violation of groundwater or surface water quality standards.

### **Education**

- Drivers and equipment operators should be instructed on proper disposal and equipment washing practices (see above).
- Supervisors must be made aware of the potential environmental consequences of improperly handled concrete waste.

### **Enforcement**

- The construction site manager or foreman must ensure that employees and pre-mix companies follow proper procedures for concrete disposal and equipment washing.
- Employees violating disposal or equipment cleaning directives must be re-educated or disciplined if necessary.

### **Demolition Practices**

- Monitor weather and wind direction to ensure that concrete dust is not entering drainage structures and surface waters.
- Where appropriate, construct sediment traps or other types of sediment detention devices downstream of demolition activities.

### **Performance Indicators**

- Use pre-determined disposal sites for waste concrete.
- Prohibit dumping waste concrete anywhere but pre-determined areas.
- Assign pre-determined truck and equipment washing areas.
- Educate drivers and operators on proper disposal and equipment cleaning procedures.

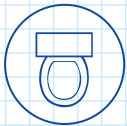


*Commercial concrete washout tank with fold-up ramp.*

*Straw bale and plastic concrete washout structure. Site concrete washouts in convenient locations, make sure mixing truck drivers know where they are, and make sure they use them.*



# Sanitary Facilities



*Provide sanitary waste facilities for construction site workers in convenient locations, and have them serviced regularly. Do not site them near storm drain inlets.*

### Definition

Facilities for collection and disposal of sanitary waste that are properly managed to minimize the potential contamination of surface water with septic wastes. Location of portable facilities away from storm drain systems and surface waters or containment is necessary in case of spills.

### Purpose

The purpose of this good housekeeping BMP is to prevent the contamination of stormwater with human waste and to provide for proper public health protection and employee safety.

### Implementation

- Sanitary facilities must be provided on the site in close proximity to areas where people are working.
- Portable toilets must be provided if no permanent facilities are available.
- Locate portable toilets a minimum of 20 feet away from storm drain inlets, conveyance channels, or surface waters.
- If unable to meet 20-foot distance requirement, provide containment for portable toilets.
- Portable toilets should be regularly serviced.



*Relocate sanitary facilities as needed when the active work area changes. Make sure facilities are well away from vehicle and equipment traffic.*

# Employee Training



*All employees should receive regular training and frequent updates on good housekeeping plans and practices. Murphy's Law postulates that the employee with the most training will be the farthest away when a spill or accident happens, so make sure your least-trained employee is ready to act!*

### Definition

Workshops, meetings, and other structured interaction among managers and employees to distribute and discuss information regarding the control of erosion and the runoff of sediment or other pollutants from the construction site.

### Purpose

Employee training ensures that both employees and subcontractors are aware of and follow appropriate practices to prevent polluted runoff from leaving construction sites. Education should be provided on basic requirements, water quality impacts, BMPs, and inspection/maintenance procedures at construction sites.

### Implementation

- Use this Kentucky BMP Planning and Technical Specifications Manual as the training workbook
- Train both employees and subcontractors
- Integrate erosion and sediment control training with spill response training, safety training or other training where appropriate.
- Reinforce training with frequent refreshers
- Consider posting information on BMPs for employees to read
- Consider sending employees to erosion and sediment control training courses



*Training in the classroom and in the field are both necessary to keep employees up to date on how to control erosion, sediment, spills, and other pollutant runoff. Ask your workers frequently if they know what to do—and why—regarding stormwater management on the job site.*